Owner's Manual

8- and 16-Port NetCommander™ Cat5 Rackmount KVM Switches

Models: B072-008-1 and B072-016-1

Note: Follow these installation and operating procedures to ensure correct performance and to prevent damage to this unit or to its connected devices.

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Table of Contents

1. Features 3
2. System Components 3
3. Compatibility 3
4. Configuration 4
4.1 Front Panel 4
4.2 Back Panel 4
5. Installation 4
5.1 Rackmount Considerations 4
5.1.1 Ambient Operating Temperature 4
5.1.2 Airflow 4
5.1.3 Circuit Overloading 4
5.2 Rackmounting the NetCommander KVM 5
5.3 Pre-Installation Guidelines 5
5.4 Connecting the NetCommander KVM System 5
5.5 NetCommander Server Interface Unit (SIU) 5
5.5.1 PS/2 Server Interface Unit 6
5.5.2 USB Server Interface Unit 6
5.6 Connecting the Power Supply 6
5.7 Resetting the KVM Switch 7
5.8 Cascading NetCommander KVM Switches 7
6. Operation 8
6.1 Basic Operation 8
6.1.1 Pushbuttons 8
6.1.2 Keyboard Hotkeys 8
6.1.3 On-Screen Display (OSD) 8
6.2 On-Screen Display (OSD) Functions 8
6.3 On-Screen Display (OSD) F2 Settings 9
6.3.1 General 9
6.3.2 Ports 11
6.3.3 Time 11
6.3.4 Users 12
6.3.5 Security 12
7. Software 13
7.1 Firmware Upgrade Computer Requirements 13
7.2 Firmware Upgrade Software Requirements 13
7.3 Performing a Firmware Upgrade 13
7.4 Physical Installation 13
7.5 Current Firmware Verification 13
7.6 Firmware Upgrade 16
8. Troubleshooting 17
9. USB/SUN Combo Keys 17
10. Specifications 18
11. FCC Radio/TV Interference Notice 18
12. Warranty & Registration 19
12.1 1-Year Limited Warranty 19
12.2 Warranty Registration 19

14-03-231-933350.indd 2 3/27/2014 4:38:32 PM

1. Features

- Access and control multiple computers from a single console
- Hot-swappable: disconnect and reconnect USB computers without rebooting
- Auto-scan: with variable time interval
- Compact design: 1U rack mountable
- Easy port selection using (1) On Screen Display (OSD), (2) front panel pushbuttons or (3) keyboard Hotkeys key sequences
- Expandable: control up to 256 computers by adding additional KVM switches
- Simple cable management: use standard Cat5e/6 patch cord (maximum distance 100 ft) to connect to each computer
- Multi-platform: supports PS/2 and USB computers/servers
- Comes with a USB to PS/2 converter for connecting a USB keyboard and mouse to the KVM's PS/2 console ports
- Optional B051-000 IP Remote Access Unit to access the NetCommander over IP

2. System Components

- The NetCommander Cat5 KVM Switch consists of:
- B072-008-1 (8-Port) or B072-016-1 (16-Port) Cat5 KVM Switch
- USB to PS/2 converter
- Rackmount hardware
- 1 serial download cable (DB9 Female to RJ11 Male) for firmware upgrade
- C13 to 5-15P power cord
- Owner's Manual CD

Accessories (available separately from Tripp Lite) include:

- Server interface units (SIU)—PS/2 (model B078-101-PS2) or USB (model B078-101-USB-1)
- Cat5e/6 cables (Tripp Lite model series: N001-, N002-, N201-, N202- or N105-)

3. Compatibility

- The NetCommander Cat5 KVM Switch is compatible with:
- PS/2 and USB computers/servers
- Video resolutions up to 1600 x 1200 @ 75Hz
- All major operating systems

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4. Configuration

4.1 Front Panel

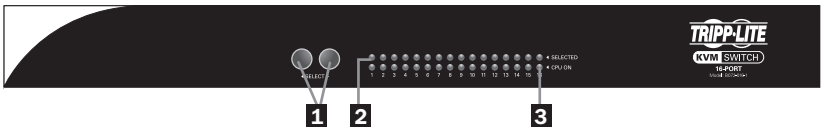

Figure 4.1 B072-016-1 NetCommander KVM front panel

1. **Port Select Buttons:** Press these buttons to toggle back and forth between ports. Pressing both "Select" buttons at the same time also performs a system reset.
2. **"Port Selected" LED:** The "Port Selected" LED will illuminate above the port that is currently selected.
3. **"CPU On" LED:** The "CPU On" LEDs will illuminate for all ports that have a server connected (server must be powered on).

4.2 Back Panel

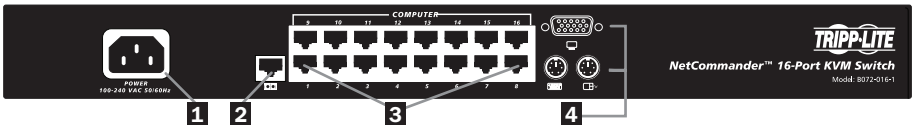

Figure 4.2 B072-016-1 NetCommander KVM rear panel

1. **Power Socket:** The power cord from the AC power source plugs in here.
2. **Firmware Upgrade Port:** Insert the included firmware upgrade cable here to download firmware upgrade data.
3. **CPU Port Section:** Insert the Cat5/5e/6 cable from each PC or server.
4. **KVM Console Ports:** The keyboard, monitor and mouse plug in here.

5. Installation

5.1 Rackmount Considerations

5.1.1 Ambient Operating Temperature

The ambient operating temperature in the rack may be an issue and depends on the rack load and ventilation. When installing the KVM switch in a closed or multi-unit rack assembly, make sure that the temperature will not exceed the maximum rated ambient temperature.

5.1.2 Airflow

Ensure that the airflow through the rack is not compromised.

5.1.3 Circuit Overloading

When connecting the KVM switch to the supply circuit, consider the effect that overloading of circuits might have on over-current protection and supply wiring.

Reliable grounding of all rack-mounted equipment must be maintained.

To protect against circuit overloading you should connect your Console KVM and attached computers/servers to a Tripp Lite SmartPro® or SmartOnline® UPS System.

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5. Installation (continued)

5.2 Rackmounting the NetCommander KVM

Use the L-shaped brackets and screws provided to mount the KVM in a server rack as illustrated below.

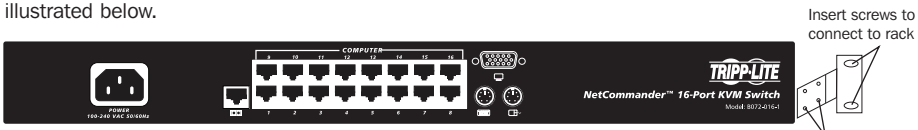


Figure 5.2 Connecting the L-shaped bracket

5.3 Pre-Installation Guidelines

- Switch off all computers
- Ensure that the cables are not close to any sources of electrical noise interference such as fluorescent lights, HVAC systems or motors
- Ensure that the distance between any computer and the KVM switch does not exceed 100 ft.
- Shut down all PS/2 computers. If you plug the keyboard and mouse connectors into an active PC, they may not work.

5.4 Connecting the NetCommander KVM System

Connect each computer to the KVM using a Server Interface Unit (SIU) and Cat5e/6 patch cable. Figure 5.3 illustrates the connection options.

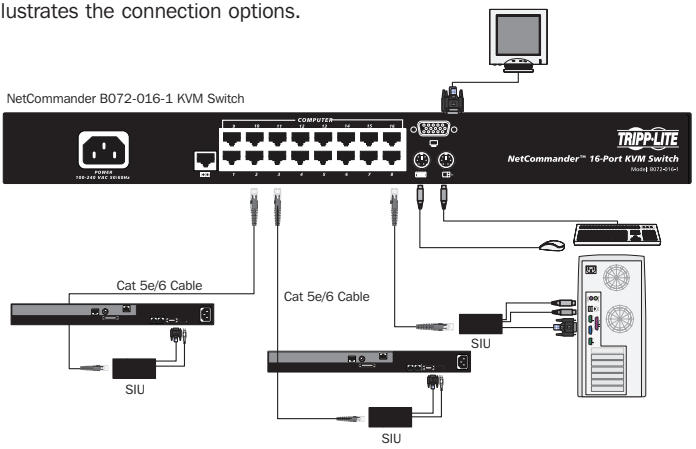


Figure 5.4 NetCommander KVM system connections

5.5 NetCommander Server Interface Unit (SIU)

The Server Interface Unit receives power from the connected computer. In the case of the NetCommander PS/2 Server Interface Unit (B078-101-PS2), power is drawn from the keyboard port. In the case of the NetCommander USB Server Interface Unit (B078-101-USB-1), power is drawn from the USB port. SIUs allow a computer/server to be located up to 100 ft. from the KVM switch.

14-03-231-933350.indd 5 3/27/2014 4:38:35 PM

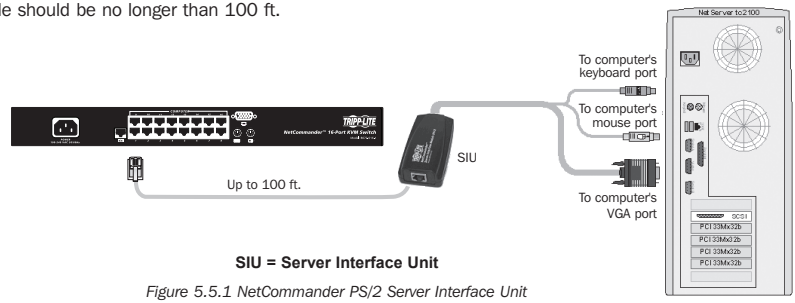
5. Installation (continued)

5.5.1 PS/2 Server Interface Unit

Connecting a NetCommander PS/2 Server Interface Unit (B078-101-PS2)

1. Shut down the computer being connected to the B078-101-PS2 (SIU)
2. Connect the B078-101-PS2 VGA connector to the computers VGA port
3. Connect the B078-101-PS2 PS/2 Keyboard connector to the computers PS/2 Keyboard port
4. Connect the B078-101-PS2 PS/2 Mouse connector to the computers PS/2 Mouse port
5. Connect one end of the Cat5e/6 patch cable to the RJ45 port on the B078-101-PS2*
6. Connect the other end of the Cat5e/6 patch cable to the desired RJ45 CPU port*
7. Repeat these steps for each additional PS/2 computer/server you are connecting to the KVM

* Cat5e/6 cable should be no longer than 100 ft.



SIU = Server Interface Unit

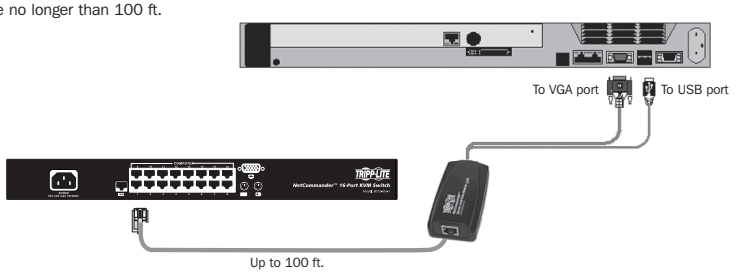
Figure 5.5.1 NetCommander PS/2 Server Interface Unit

5.5.2 USB Server Interface Unit

Connecting a NetCommander USB Server Interface Unit (Model # B078-101-USB-1)

1. Connect the B078-101-USB-1 VGA connector to the computers VGA port
2. Connect the B078-101-USB-1 USB connector to the computers USB port
3. Connect one end of the Cat5e/6 patch cable to the RJ45 port on the B078-101-USB-1*
4. Connect the other end of the Cat5e/6 patch cable to the desired RJ45 CPU port*
5. Repeat these steps for each additional USB computer/server you are connecting to the KVM

* Cat5e/6 cable should be no longer than 100 ft.



SIU = Server Interface Unit

Figure 5.4.2 NetCommander USB Server Interface Unit

5.6 Connecting the Power Supply

1. Plug in the KVM. Use only the power cord supplied with the unit.
2. Switch ON the computers.

14-03-231-933350.indd 6 3/27/2014 4:38:35 PM

5. Installation (continued)

5.7 Resetting the KVM Switch

To reset the KVM switch, press both "Select" buttons on the front panel simultaneously. The Server Interface Units are unaffected by this reset.

5.8 Cascading NetCommander KVM Switches

To cascade two or more NetCommander KVM Switches, follow the instructions below. You can connect up to 256 computers/servers in a complete 2-level installation. Note: The distance between the first- and second-level KVMs, and between the second-level KVMs and connected computers, cannot total more than 100 ft.

1. Connect a CPU port on the NetCommander KVM Switch to a B078-101-PS2 SIU using a Cat5e/6 cable
2. Connect the B078-101-PS2's VGA connector to the VGA console port of the NetCommander KVM Switch being cascaded
3. Connect the B078-101-PS2's keyboard and mouse connectors to the PS/2 console ports on the NetCommander KVM Switch being cascaded
4. Repeat steps 1 through 3 for each additional NetCommander KVM Switch being cascaded
5. Connect any USB servers to the cascaded B072-Series KVM Switch using the B078-101-USB-1
6. Connect any PS/2 servers to the cascaded B072-Series KVM Switch using the B078-101-PS2

Note: *In order to access the cascaded KVM's OSD, you must change the cascaded KVM's Hotkey (see page 10 for details). Once the cascaded NetCommander KVM Switch is accessed, the only way to access the cascaded KVM's ports is via the cascaded KVM's keyboard Hotkeys or OSD. If the cascaded KVM's OSD security is set to On, the only way to access the cascaded KVM's ports is by using your password to access the OSD.*

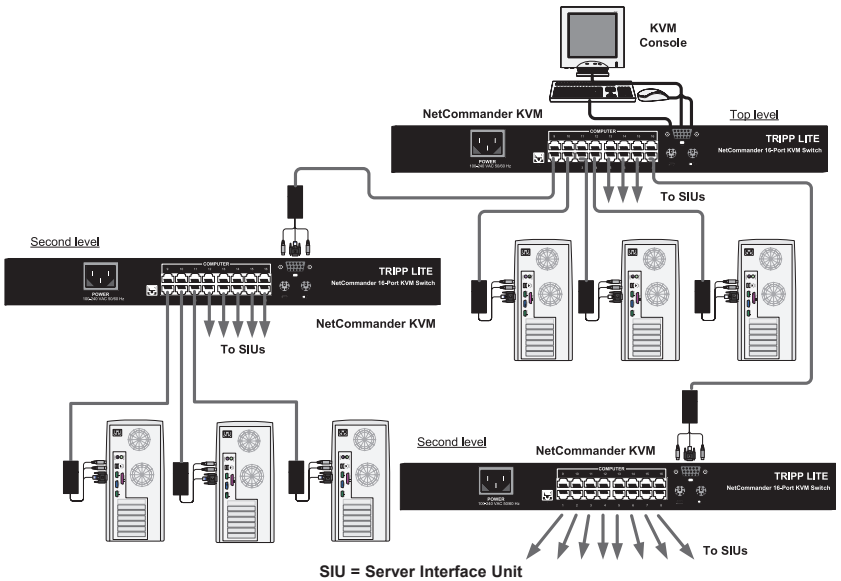


Figure 5.9 Cascading NetCommander KVM Switches

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6. Operation

6.1 Basic Operation

The NetCommander KVM Switch provides three methods for accessing connected computers; *Pushbuttons*, *Keyboard Hotkeys* and *On-Screen Display (OSD)*.

6.1.1 Pushbuttons

Press the pushbuttons on the front panel of the KVM to toggle between the connected computers.

6.1.2 Keyboard Hotkeys

Keyboard hotkeys allow you to toggle between ports using the keyboard. To access the first accessible port after the currently selected port, press and release the [Shift] key, and then press and release the plus [+] key. To access the first accessible port prior to the currently selected port, press and release the [Shift] key, and then press and release the minus [-] key.

6.1.3 On-Screen Display (OSD)

To access the OSD, press and release the [Shift] key twice. When activated, the OSD main page opens with the port list displayed. Ports that have a powered-on computer connected to them will be displayed using Blue text. Ports that do not have a computer connected to them, or that have a powered-off computer connected, will be displayed using Gray text. By default, ports that are displayed in Gray will not be accessible to the user. If you want to be able to access these ports, you must turn off the *Auto Skip* setting in the *General* section of the OSD. (See the *General* section under *On-Screen Display OSD F2 Setting*s for details).

Selecting a Port
To select a port in the OSD main page, use the [↑] and [↓] keys to highlight the desired port, and then press the [Enter] key.

6.2 On-Screen Display (OSD) Functions

The OSD main menu displays the various functions that can be performed using keyboard keys. These functions are described in the following sections.

F1 – HELP
Press the [F1] key to access the *HELP* screen. The *HELP* screen displays the functions that are available, and what keys are used to activate them.

F2 – SETTINGS
Press the [F2] key to pull up the OSD *SETTINGS* screen. From this screen you can configure the KVM and add/edit user accounts. The *F2 – SETTINGS* section is described in detail in the *On-Screen Display (OSD) F2 Setting*s section.

F4 – SCAN
Press the [F4] key to initiate an Auto Scan. When initiated, an *Auto Scan* automatically switches between accessible ports at a pre-determined time interval. By default, each port is scanned for 30 seconds. The scan interval can be edited in the *Time* settings screen. (See *Time* section under *On-Screen Display OSD F2 Setting*s for details) During an *Auto Scan*, press the [F4] key to stop the scan at the currently selected port.

14-03-231-933350.indd 8 3/27/2014 4:38:37 PM

F5 – TUNING

As computers are located further away from the KVM switch, the video can become distorted. In the event you are experiencing poor video quality, the *TUNING* function can be used to correct it. Press the [F5] key to display the currently selected port, with the *TUNING* bar displayed. Use the [←] and [→] keys to make the necessary adjustments. When you are finished, press the [Esc] key to go back to the OSD. ***Note:*** *Tuning is performed on a port-by-port basis. You will need to adjust each port individually.*

F6 – MOVE LABEL

By default, the label that displays each ports *Port Name* appears in the top-center of the screen, but it can be moved anywhere on the screen that you want. Press the [F6] key to display the currently selected port and its label. Use the [↑], [↓], [←] and [→] keys to move the label to the desired location, and then press the [Esc] key to go back to the OSD. ***Note:*** *Setting the label location is performed on one port at a time. You can move the label to different locations on different ports.*

F10 – NEW MONITOR – DDC2

In the event that one of the connected computers does not display an image on the console monitor (e.g. You get the error message 'Unable to Display Video Mode'), you may need to update the DDC information being used by the console monitor. To do this, follow the steps below.

1. Remove the SIU VGA connectors from the connected computers, while leaving the PS/2 and /or USB connectors plugged in.
2. Open the OSD main menu and press the [F10] key. The OSD will flash the message "Please Wait." When that message disappears, the update is complete.
3. Reconnect the SIU VGA connectors to the connected computers. You should now be able to display video from all of the remote computers.

6.3 On-Screen Display (OSD) F2 SETTINGS

Press the [F2] key to pull up the OSD *SETTINGS* screen. From this screen you can configure the KVM and add/edit user accounts. The pages that follow describe the sections of the *F2 SETTINGS* page, and the settings included in them. ***Note:*** *When local security is turned on, the KVM administrator is the only one that can access the* F2 SETTINGS *page.*

6.3.1 General

Highlight the *General* option and press the [Enter] key to open the *GENERAL SETTINGS* page. This page allows you to turn the KVMs local security settings on/off, as well as to configure some of the basic KVM settings. The table below describes the settings found in this page.

Setting	Description
Security	By default, the *Security* setting is turned off. To activate the *Security* setting, highlight it and press the [Spacebar]. Upon pressing the [Spacebar], you will be prompted to enter the administrator password in order to change the *Security* setting. The default administrator password is ADMIN. For security purposes, it is recommended that you update the administrator password to something unique. (See the *Security Setting*s section for details) ***Note:*** *When security is activated, the keyboard hotkey commands are disabled, leaving the OSD as the only way for you to locally access the connected computers. Upon pressing the [Shift] [Shift] invocation command, you will be prompted to enter your password before the OSD can be accessed. The security settings in this OSD are exclusive to the local console, and do not affect the remote access security settings.*

14-03-231-933350.indd 9 3/27/2014 4:38:37 PM

6.3 On-Screen Display (OSD) F2 SETTINGS (continued)

Hotkey	By default, the hotkey used in keyboard hotkey commands and to open the OSD is the [Shift] key, but this can be changed to any of the four options below. To toggle between commands, highlight the *Hotkey* option and press the [Spacebar] key. **(SH-SH)** • Press and release the [Shift] key twice to open the OSD. • Press and release the [Shift] key, and then press and release the plus [+] key to switch to the next accessible port. • Press and release the [Shift] key, and then press and release the minus [-] key to switch to the previous accessible port. **(CL-CL)** • Press and release the Left [Ctrl] key twice to open the OSD; or, press and release the Right [Ctrl] key, and then press and release the Left [Ctrl] key. • Press and release either [Ctrl] key, and then press and release the plus [+] key to switch to the next accessible port. • Press and release either [Ctrl] key, and then press and release the minus [-] key to switch to the previous accessible port. **(CLF11)** • Press and release either [Ctrl] key, and then press and release the [F11] key to open the OSD. • Press and release either [Ctrl] key, and then press and release the plus [+] key to switch to the next accessible port. • Press and release either [Ctrl] key, and then press and release the minus [-] key to switch to the previous accessible port. **(PRSCR)** • Press and release the [Print Screen] key once to open the OSD. • When you choose [Print Screen] as your hotkey, the keyboard hotkey commands are disabled, leaving the OSD as the only way to access the connected computers.
Autoskip	By default, the *Autoskip* setting is enabled, which prevents users from accessing ports that either don't have a computer connected to them, or that have a powered-off computer connected to them. To toggle this setting on/off, highlight it and press the [Spacebar] key.
Serial Port	By default, the *Serial Port* setting is enabled, which allows a local firmware upgrade to be performed. To toggle this setting on/off, highlight it and press the [Spacebar] key. ***Note:*** *This setting affects the firmware upgrade port only, and has nothing to do with the Serial port on the back of the unit.*
Keyboard Language	By default, the *Keyboard Language* setting is set to *US English*, but it can be changed to *French (FR)* or *German (DE)*. To toggle between these three language settings, highlight the *Keyboard Language* setting and press the [Spacebar] key.
Switch Name	By default, the switch name is *NETCOMMANDER 16IP,* but this can be changed. Simply move the OSD cursor to the *Switch Name* and type in the desired name. Delete any characters that you don't want. The *Switch Name* can be up to 18 characters in length, with spaces counting as characters.
F7 – Defaults	You can restore the default settings of the local OSD by pressing the [F7] key. When pressed, you will be prompted to confirm that you wish to continue. If yes, press the [Y] key to restore the default values. ***Note:*** *All of the local OSD settings, including Security and User Settings, will be restored.*

14-03-231-933350.indd 10 3/27/2014 4:38:37 PM

6.3 On-Screen Display (OSD) F2 SETTINGS (continued)

6.3.2 Ports

Highlight the *Ports* option and press the [Enter] key to open the Port Settings page. This page allows you to edit port names, set the remote computer keyboard type, and set the hotkey for ports that have second level KVM switches connected to them. The table below describes each of these settings.

Column	Description
NAME	The first column displays the name associated to each port. You can change this by moving the cursor to the desired port name and simply typing over the existing name with the desired name. Port names can be up to 15 characters in length, with spaces counting as characters.
KB	The second column displays the keyboard type associated with each port. By default, each port is set to PS, which works with Intel-based computers and UNIX servers connected using a B078-101-USB-1. To toggle this setting between the options listed below, move the cursor to the desired port, press the [Tab] key to move to the KB column, and then press the [Spacebar] key. • **PS** – Intel-based computers and UNIX servers connected using a B078-101-USB-1 • **U1** – HP UX • **U2** – Alpha UNIX, SGI or Open VMS • **U3** – IBM AIX
HKEY	By default, the *HKEY* setting for each port is NO, which means that a computer is connected to it. When a second level KVM is connected to a port, you need to update this setting to display its hotkey. To toggle this setting between the various hotkeys, move the cursor to the desired port, press the [Tab] key to move to the *HKEY* column, and then press the [Spacebar] key.

6.3.3 Time

Highlight the *Time* option and press the [Enter] key to open the *Time Settings* page. This page lists all of the KVM ports on the left, and 3 time columns on the right, which are described below.

SCN – Sets the amount of time spent on the selected port during an *Auto Scan*. The default scan interval is 30 seconds. A setting of 000 causes the corresponding port to be skipped during an *Auto Scan*.

LBL – Sets the amount of time that the port's label is displayed on screen. The default label display time is 30 seconds. A setting of 999 causes the label to be displayed continuously. A setting of 000 causes the label not to appear at all.

T/O – When *Security* is enabled, you set the KVM to logout after a specified amount of time. When this time is reached, entering the OSD invocation command brings up a prompt asking you to enter a password, which is required to regain access to the KVM. The default timeout value is 30 seconds. A setting of 999 disables the timeout function. ***Note:*** *A setting of 000 causes the KVM to logout immediately, not allowing the user enough time to hit the OSD invocation command to pull up the password prompt. It is recommended that you always keep the timeout setting at 5 seconds or higher. If you set the timeout setting at 000 and get locked out of the KVM, turn the unit off and then back on. When turned back on, you will be able to use the OSD invocation command to pull up the password prompt and regain access to the OSD.*

To set the time periods mentioned above, follow the steps below.

1. Move the cursor to the desired port row and press the [Tab] key to jump to the desired column.
2. When the cursor is moved to the desired column, simply type in the time interval.

14-03-231-933350.indd 11 3/27/2014 4:38:38 PM

6.3 On-Screen Display (OSD) F2 SETTINGS (continued)

6.3.4 Users

The *Users* option can only be accessed when Security is enabled in the *General Settings* page. (See *General* under *On-Screen Display OSD F2 Settings* section for details.) Highlight the *Users* option and press the [Enter] key to open the *User Settings* page. In the column on the left side of the screen, all of the ports on the KVM are listed. On the right side of the screen, there are 6 columns; one for each *user* account. For example, column 1 represents the first *user* account that is displayed in the *Security Settings* page. (See the *Security Settings* section for details.) The letters in each column represent the access rights that the corresponding *user* account has for the corresponding port. There are three types of access a *user* can be given to a port, which are described below.

- Y – A Y signifies that the corresponding *user* account has full access rights to the corresponding port.
- V – A V signifies that the corresponding *user* account has view-only access rights to the corresponding port, meaning that they can view the remote video, but are not allowed to control the connected computer with the keyboard and mouse.
- N – A N signifies that the corresponding *user* account is not allowed to access the corresponding port.

To change the User settings, the *administrator* must follow the steps below.

1. In the *User Settings* page, use the [↓] and [↑] keys to move the cursor to the desired port row.
2. Use the [←] and [→] keys to move the cursor to the desired account column.
3. Press the [Spacebar] key to toggle between the different access types.

6.3.5 Security

The *Security* option can only be accessed when Security is enabled in the *General Settings* page. (See *General* under *On-Screen Display OSD F2 Settings* section for details) Highlight the *Security* option and press the [Enter] key to open the *Security Settings* page. The *Security Settings* page displays all of the available accounts for the KVM; 1 *administrator*, 1 *supervisor* and 6 *users*. The first column lists the account *Name*, the second column lists the account *Password*, and the third column lists the account *Type*. The three available account types are described below.

- **Administrator** – There is one *administrator* account available. The *administrator* has full access to all ports and settings on the KVM. The *administrator* is the only account that can access the *F2 SETTINGS* menu in the OSD.
- **Supervisor** – There is one *supervisor* account available. The *supervisor* has full access to all ports on the installation, but is not allowed to access the *F2 SETTINGS* menu in the OSD. The *supervisor* is allowed to access the *F1 HELP, F4 SCAN, F5 TUNING, F6 MOVE LABEL* and *F10 NEW MONITOR DDC* functions in the OSD.
- **User** – There are six *user* accounts available. *Users'* port access rights are limited to those assigned to them by the *administrator*. *Users* are not allowed to access the *F2 SETTINGS* menu in the OSD, but can access the *F1 HELP, F4 SCAN, F5 TUNING, F6 MOVE LABEL* and *F10 NEW MONITOR DDC* functions.

To change the *Security* settings, the *administrator* must follow the steps below.

1. In the *Security Settings* page, use the [⇓] and [⇓] keys to move the cursor to the desired account row.
2. To edit the account *Name*, simply type the desired name over the current one, and delete any unnecessary characters. ***Note:*** *The account* Name *is for organizational purposes only. The* Password *is the only thing an account needs to enter to gain access to the KVM.*
3. To edit the account *Password*, press the [Tab] key to move the cursor to the *Password* column, and then enter in the desired password over the current one. Delete any unnecessary characters.

14-03-231-933350.indd 12 3/27/2014 4:38:38 PM

7. Firmware Upgrade

7.1 Firmware Upgrade Computer Requirements

- Windows 2000 or higher operating system
- Pentium 166 or higher with 16MB RAM and 10MB free hard drive space
- Available DB9 serial port

7.2 Firmware Upgrade Software Requirements

- Firmware Upgrade Utility—This Windows-based application reads the current firmware and installs the new firmware of the KVM and Server Interface Units (SIUs). ***Note:*** *The firmware upgrade utility is compatible with Windows 32-bit operating systems only.*
- Firmware Upgrade File—This file contains the actual firmware for the KVM and SIUs.

7.3 Performing a Firmware Upgrade

There are several steps to performing a firmware upgrade on your KVM switch and SIUs: *Physical Installation, Current Firmware Verification* and *Firmware Upgrade*. Each of these steps is described in the sections that follow. ***Note:*** *Each KVM switch in a cascaded installation must be upgraded separately.*

7.4 Physical Installation

The first step in performing a firmware upgrade is to physically connect the KVM switch to a computer that is not a part of the KVM installation (i.e. not connected via Cat5e/6 cable and an SIU). To do this, follow the steps below.

1. Make sure that the *Serial Port* setting in the *General Settings* page of the OSD is enabled. (See the *General* section under *On-Screen Display OSD F2 Settings* for details.) If this setting is disabled, you will not be able to perform a firmware upgrade.
2. Connect the RJ11 *Firmware Upgrade* port on the back of the KVM to a DB9 serial port on the upgrade computer using the included RJ11 to DB9 firmware upgrade cable.

7.5 Current Firmware Verification

After the physical connection is made, you must install the Firmware Upgrade Utility on the upgrade computer (the computer you just connected to the KVM) and then check the current firmware version on your KVM to see if it needs to be updated. To do this, follow the steps below.

1. On the upgrade computer, go to www.tripplite.com/support and download the latest firmware for the B072-008-1 or B072-016-1. The Firmware Upgrade Utility and KVM/SIU Firmware Upgrade File will be downloaded together.
2. Run the Firmware Upgrade Utility to install it on the upgrade computer. Follow the installation prompts to install the utility.

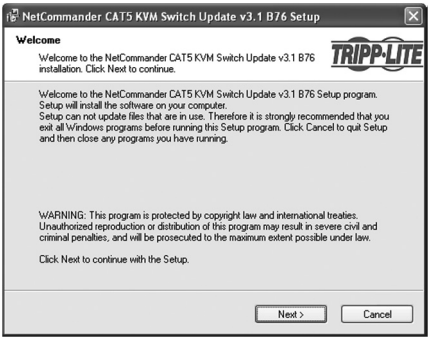
NetCommander CAT5 KVM Switch Update v3.1 B76 Setup
Welcome
Welcome to the NetCommander CAT5 KVM Switch Update v3.1 B76 installation. Click Next to continue.
TRIPP·LITE
Welcome to the NetCommander CAT5 KVM Switch Update v3.1 B76 Setup program. Setup will install the software on your computer. Setup can not update files that are in use. Therefore it is strongly recommended that you exit all Windows programs before running this Setup program. Click Cancel to quit Setup and then close any programs you have running.
WARNING: This program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Click Next to continue with the Setup.
Next >
Cancel

Figure 7.1: Firmware Upgrade Utility Setup

14-03-231-933350.indd 13 3/27/2014 4:38:38 PM

7. Firmware Upgrade (continued)

7.5 Current Firmware Verification (continued)

3. When installation is complete, clicking the *Finish* button will automatically open the Firmware Upgrade Utility with the main screen displayed.

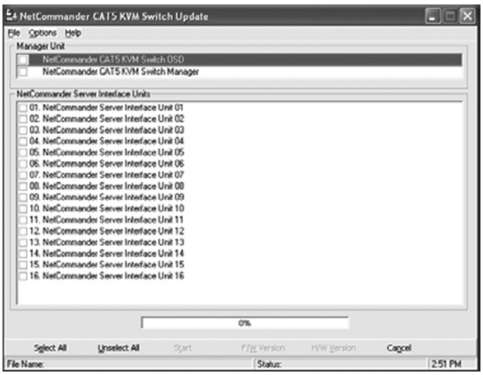
NetCommander CAT5 KVM Switch Update
File Options Help
Manager Unit
NetCommander CAT5 KVM Switch OSD
NetCommander CAT5 KVM Switch Manager
NetCommander Server Interface Units
01. NetCommander Server Interface Unit 01
02. NetCommander Server Interface Unit 02
03. NetCommander Server Interface Unit 03
04. NetCommander Server Interface Unit 04
05. NetCommander Server Interface Unit 05
06. NetCommander Server Interface Unit 06
07. NetCommander Server Interface Unit 07
08. NetCommander Server Interface Unit 08
09. NetCommander Server Interface Unit 09
10. NetCommander Server Interface Unit 10
11. NetCommander Server Interface Unit 11
12. NetCommander Server Interface Unit 12
13. NetCommander Server Interface Unit 13
14. NetCommander Server Interface Unit 14
15. NetCommander Server Interface Unit 15
16. NetCommander Server Interface Unit 16
0%
Select All
Unselect All
Start
F/W Version
H/W Version
Cancel
File Name:
Status:
2:51 PM

Figure 7-2: Firmware Upgrade Utility Main Screen

4. There are three types of firmware to be verified; *OSD, Manager* and *SIU*. Start by checking the *NetCommander CAT5 KVM Switch OSD* box at the top of the utility, and then click the *F/W Version* button at the bottom of the utility to display the firmware version number. Check this against the firmware you downloaded from the Tripp Lite website to determine if an upgrade is needed.

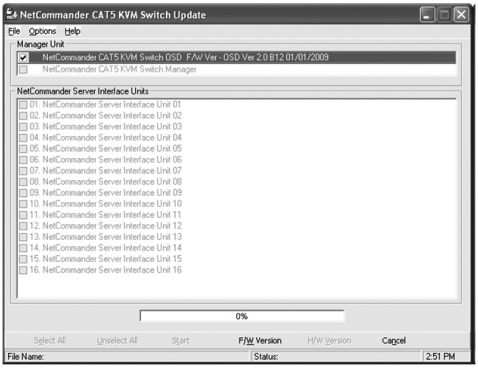
NetCommander CAT5 KVM Switch Update
File Options Help
Manager Unit
NetCommander CAT5 KVM Switch OSD F/W Ver - OSD Ver 2.0 B12 01/01/2009
NetCommander CAT5 KVM Switch Manager
NetCommander Server Interface Units
01. NetCommander Server Interface Unit 01
02. NetCommander Server Interface Unit 02
03. NetCommander Server Interface Unit 03
04. NetCommander Server Interface Unit 04
05. NetCommander Server Interface Unit 05
06. NetCommander Server Interface Unit 06
07. NetCommander Server Interface Unit 07
08. NetCommander Server Interface Unit 08
09. NetCommander Server Interface Unit 09
10. NetCommander Server Interface Unit 10
11. NetCommander Server Interface Unit 11
12. NetCommander Server Interface Unit 12
13. NetCommander Server Interface Unit 13
14. NetCommander Server Interface Unit 14
15. NetCommander Server Interface Unit 15
16. NetCommander Server Interface Unit 16
0%
Select All
Unselect All
Start
F/W Version
H/W Version
Cancel
File Name:
Status:
2:51 PM

Figure 7-3: OSD Verification

14-03-231-933350.indd 14 3/27/2014 4:38:38 PM

7. Firmware Upgrade (continued)

7.5 Current Firmware Verification (continued)

5. Uncheck the *NetCommander CAT5 KVM Switch OSD* box, and check the box next to *NetCommander CAT5 KVM Switch* Manager. Click the *F/W Version* button at the bottom of the utility to display the firmware version number. Check this against the firmware you obtained from the Tripp Lite website to determine if an upgrade is needed.

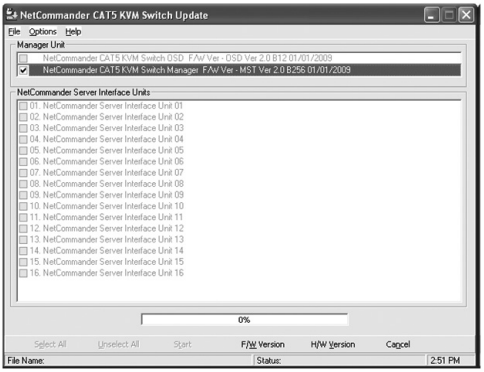
NetCommander CAT5 KVM Switch Update
File Options Help
Manager Unit
NetCommander CAT5 KVM Switch OSD F/W Ver - OSD Ver 2.0 B12 01/01/2009
NetCommander CAT5 KVM Switch Manager F/W Ver - MST Ver 2.0 B256 01/01/2009
NetCommander Server Interface Units
01. NetCommander Server Interface Unit 01
02. NetCommander Server Interface Unit 02
03. NetCommander Server Interface Unit 03
04. NetCommander Server Interface Unit 04
05. NetCommander Server Interface Unit 05
06. NetCommander Server Interface Unit 06
07. NetCommander Server Interface Unit 07
08. NetCommander Server Interface Unit 08
09. NetCommander Server Interface Unit 09
10. NetCommander Server Interface Unit 10
11. NetCommander Server Interface Unit 11
12. NetCommander Server Interface Unit 12
13. NetCommander Server Interface Unit 13
14. NetCommander Server Interface Unit 14
15. NetCommander Server Interface Unit 15
16. NetCommander Server Interface Unit 16
0%
Select All Unselect All Start F/W Version H/W Version Cancel
File Name: Status: 2:51 PM

Figure 7.4: Manager Verification

6. Uncheck the *NetCommander CAT5 KVM Switch Manager* box, and check the box in the middle of the utility next to each SIU for which you want to verify the firmware. Click the *F/W Version* button at the bottom of the utility to display the firmware version number. Check this against the firmware you obtained from the Tripp Lite website to determine if an upgrade is needed.

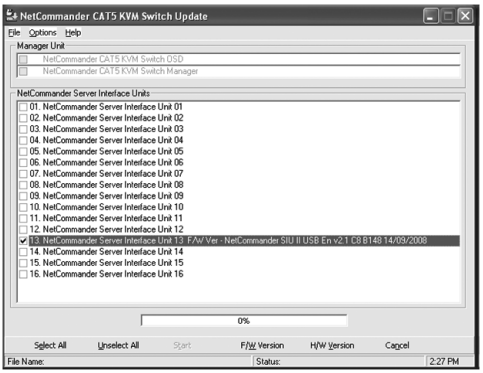
NetCommander CAT5 KVM Switch Update
File Options Help
Manager Unit
NetCommander CAT5 KVM Switch OSD
NetCommander CAT5 KVM Switch Manager
NetCommander Server Interface Units
01. NetCommander Server Interface Unit 01
02. NetCommander Server Interface Unit 02
03. NetCommander Server Interface Unit 03
04. NetCommander Server Interface Unit 04
05. NetCommander Server Interface Unit 05
06. NetCommander Server Interface Unit 06
07. NetCommander Server Interface Unit 07
08. NetCommander Server Interface Unit 08
09. NetCommander Server Interface Unit 09
10. NetCommander Server Interface Unit 10
11. NetCommander Server Interface Unit 11
12. NetCommander Server Interface Unit 12
13. NetCommander Server Interface Unit 13 F/W Ver - NetCommander SIU II USB En v2.1 C8 B148 14/09/2008
14. NetCommander Server Interface Unit 14
15. NetCommander Server Interface Unit 15
16. NetCommander Server Interface Unit 16
0%
Select All Unselect All Start F/W Version H/W Version Cancel
File Name: Status: 2:27 PM

Figure 7.5: SIU Verification

14-03-231-933350.indd 15 3/27/2014 4:38:38 PM

7. Firmware Upgrade (continued)

7.6 Firmware Upgrade

Once you have determined that your KVM and/or SIU(s) need to be upgraded, follow the steps below to install the new firmware.

1. In the Firmware Upgrade Utility main screen, open the *Options* drop-down menu at the top of the screen and select the *Com Port* option. Select the com port of the upgrade computer that the Firmware Upgrade Cable is connected to and click OK.
2. Open the *File* drop-down menu at the top of the screen and select the *Open* option. Navigate to and select the firmware upgrade file you downloaded from the Tripp Lite website.
3. **To upgrade the OSD firmware**, check the *NetCommander* CAT5 KVM Switch OSD box, and then click the *Start* button to begin the upgrade process. A prompt will appear to warn you that the KVM screen will be dark during the upgrade process. Click *OK* to proceed. Towards the end of the upgrade, a prompt will appear asking if you want to set the OSD to its default settings. If yes, click the *Yes* button. If no, click the *No* button. The upgrade will finish, and the new firmware version number will be displayed.
4. **To upgrade the Manage firmware**, check the *NetCommander CAT5 KVM Switch Manager* box, and then click the *Start* button to begin the upgrade process. A prompt will appear to warn you that the KVM screen will be dark during the upgrade process. Click *OK* to proceed. Towards the end of the upgrade, a prompt will appear asking if you want to set the OSD to its default settings. If yes, click the *Yes* button. If no, click the *No* button. The upgrade will finish, and the new firmware version number will be displayed.
5. **To upgrade the SIU firmware**, check the box(es) in the middle of the utility next to the SIU(s) you wish to upgrade, and then click the *Start* button to begin the upgrade process. A prompt will appear to warn you that the KVM screen will be dark during the upgrade process. Click *OK* to proceed. The upgrade will finish, and the new firmware version number will be displayed.

14-03-231-933350.indd 16 3/27/2014 4:38:38 PM

8. Troubleshooting

Warning: Disconnect device from AC mains before service operation!

When using Firmware Update software, you may get a Communication Error message.

If a Communication Error message appears during the update procedure, do the following:

1. Ensure that the RS232 serial cable's RS232 connector is connected to the switch's communication port
2. Ensure that the RS232 serial cable's DB9F connector is connected to the DB9M serial port on the CPU's rear panel
3. Restart the download process

Power Failure

If electrical power fails during an update to the KVM firmware, do the following:

1. If power fails while the switch firmware is updating, a communication error message will appear. Simply resume the firmware update by opening the folder that contains the firmware update file and continue from there
2. If power fails while the Server Interface Unit firmware is updating, a "**Not Responding**" or "**Upgrade Error**" message will appear. Restart the upgrade from the beginning

Monitor Screen Failure

In the event that one of the connected computers does not display an image on the console monitor (your monitor may display an error message saying "**Unable to Display Video Mode**"), you may need to update the DDC information from the console monitor. To do this, follow these steps:

1. Remove the SIU VGA connectors from all connected computers. Leave the USB or PS/2 connectors attached
2. Open the OSD main menu and press [**F10**]. The OSD will flash the message "**Please Wait**." When that message stops, the update has taken place
3. Reconnect the SIU VGA connectors of all the attached computers. You should now be able to display video from all computers

9. USB/SUN Combo Keys

The connected PS/2 keyboard does not have a special SUN keypad to perform special functions in the SUN Operating System environment. When a B078-101-USB-1 (SIU) is connected to a SUN computer, the SIU emulates these SUN keys using a set of key combinations called Combo Keys. See the table below:

SUN Key	Combo Key
Stop	Left **Ctrl + Alt + F1**
Props	Left **Ctrl + Alt + F3**
Front	Left **Ctrl + Alt + F5**
Open	Left **Ctrl + Alt + F7**
Find	Left **Ctrl + Alt + F9**
Again	Left **Ctrl + Alt + F2**
Undo	Left **Ctrl + Alt + F4**
Copy	Left **Ctrl + Alt + F6**
Paste	Left **Ctrl + Alt + F8**
Cut	Left **Ctrl + Alt + F10**
Help	Left **Ctrl + Alt + F11**

SUN Key	Combo Key
Compose	Application key or Left **Ctrl + Alt +** Keypad *****
Crescent	**Scroll Lock**
Volume Up	Left **Ctrl + Alt +** Keypad **-**
Volume Down	Left **Ctrl + Alt +** Keypad **+**
Mute	Left **Ctrl + Alt + F12**
Sun Left ◊ key	Left **Windows** key
Sun Right ◊ key	Right **Windows** key
Alt-Graph	Right **Alt** or **Alt Gr**
Stop A	Left **Ctrl + Alt + 1**

14-03-231-933350.indd 17 3/27/2014 4:38:39 PM

10. Specifications

Operating Systems	Compatible with all major operating systems	
Optional External Mouse	PS/2, Wheel mouse, Intellimouse, 5-button mouse	
Resolution	1600x1200@75Hz	
NetCommander KVM Switch	**Models B072-016-1 or B072-008-1**	
Dimensions - 8/16 port	17” x 5” x 1.7” (unit)	
Weight - 8/16 port	Product - 3.7 lbs.	
	Shipping - 5.5 lbs.	
Power Supply	Internal switching 100-240 VAC 50 / 60 Hz	
Connections		
System	RJ45	
Serial	RJ11	
Monitor	HD15	
Keyboard	MinDin6	
Mouse	MiniDin6	
Operating / Recommended Ambient Temperature	32°F to 104°F	
Storage Temperature	-40°F to 158°F	
Humidity	80% non-condensing relative humidity	
NetCommander Server Interface Units	**Model B078-101-PS2**	**Model B078-101-USB-1**
Connections		
VGA	HD15	HD15
Keyboard/Mouse	MiniDin6	USB
System	RJ45	RJ45
Power	From Keyboard port	From USB port

11. FCC Radio/TV Interference Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. The user must use shielded cables and connectors with this product. Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

14-03-231-933350.indd 18 3/27/2014 4:38:39 PM

12. Warranty & Registration

12.1 1-Year Limited Warranty

TRIPP LITE warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of initial purchase. TRIPP LITE's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from TRIPP LITE or an authorized TRIPP LITE service center. Products must be returned to TRIPP LITE or an authorized TRIPP LITE service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment, which has been damaged by accident, negligence or misapplication or has been altered or modified in any way.

EXCEPT AS PROVIDED HEREIN, TRIPP LITE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL TRIPP LITE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, TRIPP LITE is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise.

12.2 Warranty Registration

Visit www.tripplite.com/warranty today to register the warranty for your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product!*

* No purchase necessary. Void where prohibited. Some restrictions apply. See website for details.

WEEE Compliance Information for Tripp Lite Customers and Recyclers (European Union)

Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Tripp Lite they are entitled to:

- Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)
- Send the new equipment back for recycling when this ultimately becomes waste

TRIPP LITE follows a policy of continuous improvement. Specifications are subject to change without notice.

14-03-231-933350.indd 19 3/27/2014 4:38:39 PM

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14-03-231-933350.indd 20 3/27/2014 4:38:39 PM